

# Subject Index to Volume 12

## A

- Acclimation: *see* specific subject and site  
 Acetoacetate, ketone bodies, kinetics of, R7  
 Acyltransferase, fatty acid incorporation, lipids, hepatocytes (rainbow trout), R223  
 Adenosine triphosphate  
   calcium transport and peritubular (teleost), R34  
 Adipose tissue  
   brown: *see* Brown fat  
   lipoprotein lipase metabolism, R258  
 Adrenal cortex, hemorrhage responses, awake state, R416  
 Adrenal nerves, spontaneous hypertension, spinal transection, R506  
 $\beta$ -Adrenergic blockade: *see* Blockade  
 Adrenocorticotrophic hormone, angiotensin II effects, awake state, R82  
 Aging, disease, triggering cycle and homeostasis, membrane, R229  
 Airway, caliber, thin-fiber muscle afferents and, R383  
 Aldosterone, potassium distribution and, R526  
 Alloxan, injection, fourth ventricle, glycoprivic feeding and, R312  
 Amino acids  
   gustatory receptor sensitivity to (frog), R42  
   plasma  
     diet amino acid content and, R99  
     postinsulin hypophagia, R304  
*p*-Aminohippuric acid, secretion, urinary bladder (crab), R147  
 Amniotic fluid  
   pressure, fetal and maternal, analysis of (sheep), R433  
   prolactin transport, fetal membrane, R552  
 Anatomy, functional (snake), R251  
 Angiotensin, effects, drinking induced by caval ligation, R558  
 Angiotensin II  
   catecholamine release and, species differences, R65  
   central nervous system and, awake state, R82  
 Anion, organic, transport, urinary bladder (crab), R147  
 Anoxia, potassium ion homeostasis during, brain (turtle, rat), R281  
 Antennal gland, *p*-aminohippuric acid transport, urinary bladder (crab), R147  
 Antidiuretic hormone, hemodynamic, hormonal and drinking responses to, R354  
   response  
     venous return, R354  
 Antidiuretic therapy, oral, diabetes insipidus, R491  
 Aorta, thoracic, occlusion, cardiac output following, R152  
 Appetite: *see* Feeding  
 Arginine vasopressin  
   hypoxia, renal and endocrine function, R265  
   sodium and water balance, awake state, R512

- Arterial hemodynamics, systemic, (diamond python), R205  
 Arterial pressure: *see* Pressure  
 Atria: *see* Heart atria  
 Atropine, baroreflex control of heart rate, nitroprusside-induced hypotension, R18  
 Autonomic nervous system  
   hypothalamic knife cuts, obesity and, R445  
   nitroprusside-induced hypotension, heart rate during, R18  
 Awake state  
   angiotensin II effects, central nervous system, R82  
   bolus calcium injections, transient response of calcium homeostatic system (pig), R125  
   brain, multiprobe monitoring, R462  
   left atrial pressure effects, renal function (monkey), R119  
   response to hemorrhage, corticosterone effects, R416  
   vasopressin effects, water and sodium balance, R512

## B

- Barometric method, ventilatory measurement, sleeping infant, R164  
 Baroreceptors: *see* Receptors  
 Baroreflex: *see* Reflexes  
 Bicarbonate, aldosterone effects, potassium distribution, R526  
 Binding, nonspecific, modeling methodology forum, R475  
 Bladder: *see* Urinary bladder  
 Blockade  
    $\beta$ -adrenergic, thermogenesis and lipolysis, glucoprivation, R379  
    $\alpha$ -receptor, neurogenic vasomotion, ear, desynchronized (sheep), R142  
   synaptic, thermosensitive neurons and, hypothalamic tissue slices, R480  
 Blood  
   constituents: *see* specific constituent metabolites: *see* Metabolites  
 Blood-brain barrier, permeability, ontogeny of, urea, R400  
 Blood flow: *see also* Circulation; Microcirculation  
   cardiac output-blood volume relations, essential hypertension, R318  
   cerebral, angiotensin II effects, awake state, R82  
   rectal gland (dogfish), R296  
 Blood pressure: *see also* Pressure  
   angiotensin II effects, awake state, R82  
   mean, decreased, hypoxia, R265  
   spontaneous hypertension, spinal transection, R506  
 Blood volume: *see also* Volume  
   cardiac output relations, essential hypertension, R318  
   hemorrhage, corticosterone effects, awake state, R416  
 Body  
   composition, thyroid treatment and, R170  
   weight: *see* Weight  
 Bombesin, stress-induced eating, R159

- Bradycardia, vagal, cardiac preganglionic neurons, R92  
 Bradykinin, tracheal smooth muscle relaxation, thin-fiber muscle afferents, R383  
 Brain  
   angiotensin II actions, awake state, R82  
   cerebrospinal fluid sink action, ontogeny of, R400  
   multiprobe monitoring, awake state, R462  
   potassium homeostasis, anoxia (turtle, rat), R281  
 Brain ventricles, alloxan injection, glycoprivic feeding and, R312  
 Breathing: *see* Respiration  
 Brown fat, sympathetic activity, thyroid treatment and, R170  
 Bypass, right heart, aortic occlusion and, R152

## C

- Calcitonin, calcium homeostatic system and, awake state (pig), R125  
 Calcium  
   regulation of concentration, bolus calcium injections and, awake state (pig), R125  
   transport  
     sodium and adenosine triphosphate effects, peritubular (teleost), R34  
     bolus, injections, calcium homeostatic system and, awake state (pig), R125  
 Calcium-homeostatic system, transient response, bolus calcium injections, awake state (pig), R125  
 Calcium ions, plasma dense granule constituent, species differences, R454  
 Calorimetry, gradient layer, estradiol effects, R70  
 Capsaicin, tracheal smooth muscle relaxation, thin-fiber muscle afferents, R383  
 Captopril, drinking, caval ligation-induced, R558  
 Carbohydrates, sympathetic and thyroid influences, metabolic rate, R339  
 Cardiac output  
   aortic occlusion and, R152  
   blood volume relations, essential hypertension, R318  
 Cardiovascular responses, diving, chemoreceptor effects (duck), R537  
 Carotid artery, angiotensin II effects, awake state, R82  
 Castration, obesity and, R347  
 Catecholamines  
   endurance training and, fasting and exercise effects, R179  
   plasma, hypoxemia and, fetal (lamb), R520  
   release, angiotensin II effects, species differences, R65  
   thermogenesis and lipolysis,  $\beta$ -adrenergic blockade effects, R379  
 Cations  
   divalent, transport, peritubular (teleost), R34  
   suppressive effects of, gustatory

- Cations (*continued*)  
 responses and (frog), R42  
 Caval ligation, drinking induced by, angiotension effects, R558  
 Central nervous system  
 angiotensin II effects, awake state, R82  
 temperature, negative and positive feedback, thermoregulation (pigeon), R363  
 Cerebellum  
 cerebrospinal fluid sink action, ontogeny of, R400  
 fastigial nucleus stimulation, excitatory spinal sympathetic activity and, R25  
 Cerebral cortex, cerebrospinal fluid sink action, ontogeny of, R400  
 Cerebrospinal fluid, sink action, ontogeny, urea, R400  
 Chemoreceptors: *see* Receptors  
 Chloride, secretion, rectal gland (dogfish), R289  
 Cholecystokinin, stress-induced eating and, R159  
 Choriodecidual adhesion, decidual prolactin transport and, fetal membrane, R552  
 Choroid plexus, cerebrospinal fluid sink action, ontogeny of, R400  
 Circadian cycles  
 growth hormone release, lack of (monkey), R213  
 sleepiness, sex differences, R193  
 Circadian rhythms: *see* Rhythms  
 Circadian zeitgeber, glucocorticosteroid injections, R373  
 Circulation: *see also* Blood flow; Microcirculation  
 peripheral, aortic occlusion and, R152  
 Clearance, plasma, compartmental analysis, R1  
 Clonidine, fastigial nucleus, sympathetic activity, R25  
 Cold, stress, thyroid treatment and, R170  
 Comparative physiology, arterial hemodynamics (diamond python), R205  
 Compartmental analysis  
 new approach, R424  
 vs. noncompartmental, R1  
 Compliance, cardiac output-blood volume relations, hypertension, R318  
 Computer studies: *see* specific subject and site; *see also* Models  
 Corticosteroids  
 angiotensin II effects, awake state, R82  
 endotoxin effects, diabetes, R77  
 Corticosterone, hemorrhage responses and, awake state, R416  
 Coulometry, capacitive, oxygen consumption measurement, R185  
 Cryogen, endogenous, urine, R241  
 Cytochrome oxidase, anoxia and, brain (turtle, rat), R281

## D

- Decidua, prolactin transport, fetal membrane, R552  
 2-Deoxyglucose, hypothalamic knife-cuts, obesity, R445  
 Deprivation: *see* Starvation  
 1-Desamino-8-D-arginine vasopressin  
 antidiuretic therapy, diabetes insipidus, R491  
 sodium and water balance, awake state, R512

- Desaturation, lipids, hepatocytes (rainbow trout), R223  
 Dexamethasone, circadian zeitgeber, R373  
 Diabetes, endotoxin effects, metabolic and hormonal changes, R77  
 Diabetes insipidus, antidiuretic therapy, oral, R491  
 Diazepam, stress-induced eating and, R159  
 Diet: *see* Feeding  
 Diffusion, two-dimensional, modeling methodology forum, R480  
 Diving  
 heart muscle response (muskrat, rabbit, guinea pig), R245  
 responses, chemoreceptor effects (duck), R537  
 Dopamine, stress-induced eating and, R159  
 Dorsal motor nucleus, vagal cardiac preganglionic neurons, R92  
 Drinking  
 angiotensin II effects, awake state, R82  
 caval ligation-induced, angiotensin effects, R558  
 hypovolemic thirst, angiotensin effects, R558  
 reduced venous return and, R354  
 Duodenum, postpyloric regulation, gastric emptying (monkey), R408

## E

- Ear, neural control of vasomotion, desynchronized sleep, R142  
 Eating: *see* Feeding  
 Electrical activity, multiprobe monitoring, brain, awake state, R462  
 Endocrine function, hypoxia effects, R265  
 $\beta$ -Endorphin, preoptic injections, temperature regulation and, R104  
 Endotoxin, metabolic and hormonal changes after, diabetes, R77  
 Endurance: *see* Exercise  
 Energy metabolism, coulometric microrespirometry, R185  
 Enkephalin, stress-induced eating and, R159  
 Epinephrine  
 angiotensin II effects, species differences, R65  
 hypoxemia and, fetal (lamb), R520  
 plasma, thyroid treatment, R170  
 Epithelium: *see also* specific subject and site  
 transport, *p*-aminohippuric acid, urinary bladder (crab), R147  
 Esterification, lipid metabolism and, muscle and adipose tissue, R258  
 Estradiol  
 circannual body weight rhythms and (squirrel), R546  
 heat loss and, ovariectomy, R70  
 treatment, obesity, R347  
 Estrus, behavioral, circadian control of lordosis behavior, R112  
 Excretion-retention diagram, gas exchange, vertebrate respiratory systems, R329  
 Exercise  
 bicycling, intracellular water spaces and, muscle, R271  
 endurance training, stress hormone response and, fasting, R179  
 intracellular water spaces, skeletal muscle, R271  
 treadmill running, stress hormone response, fasting and exercise effects, R179

## F

- Fastigial nucleus, stimulation, spinal sympathetic activity and, R25  
 Fasting  
 exercise and, stress hormone response, R179  
 refeeding and, metabolic rate, R339  
 starvation, plasma somatostatin and (monkey), R289  
 Fatty acids  
 plasma nonesterified, postinsulin hypophagia, R304  
 polyunsaturated, incorporation into lipids, hepatocytes (rainbow trout), R223  
 serum-free, obesity and, R347  
 Feeding  
 appetite, weight gain and, R531  
 appetite regulation, peptides and, R159  
 appetite suppressant activity, plasma, intestinal bypass surgery and, R60  
 blood metabolites and, postinsulin hypophagia, R304  
 circannual body weight rhythms, gonadal hormone effects (squirrel), R546  
 diet amino acid content, plasma amino acid concentration from, R99  
 glucocorticosteroids and, circadian zeitgeber, R373  
 glycoprivic, fourth ventricular alloxan injection, R312  
 meals, liver glycogen content and, R450  
 nutrition, plasma somatostatin and (monkey), R289  
 refeeding, metabolic rate and, R339  
 satiety  
 intestinal bypass surgery and, R60  
 liver glycogen content and, R450  
 postpyloric regulation (monkey), R408  
 specific kinetics, weight gain and, R531  
 stress-induced eating, peptidergic regulation of, R159  
 Fetus: *see also* Pregnancy  
 hypoxemia, plasma catecholamines during (lamb), R520  
 membrane, decidual prolactin transport, R552  
 Fever, endogenous cryogen and, urine, R241  
 Fluid, administration, hyperdynamic severe intravascular sepsis and (monkey), R131  
 Fluid membrane, biological, triggering cycle and homeostasis, R229  
 Food intake: *see* Feeding

## G

- Ganglia, sympathetic, spontaneous hypertension, spinal transection, R506  
 Gas, exchange, vertebrate respiratory systems, R329  
 Gastric emptying, postpyloric regulation (monkey), R408  
 Gestation, hypoxemia, plasma catecholamines during (lamb), R520  
 Glucagon  
 endotoxin effects, diabetes, R77  
 endurance training and, fasting, R179  
 food intake effects, liver, R450  
 plasma somatostatin and (monkey), R289  
 Glucocorticoids  
 endurance training and, fasting, R179

- hemorrhage response, awake state, R416  
 Glucocorticosteroids, injection, circadian zeitgeber, R373  
 Gluconeogenesis  
   endotoxin effects, diabetes, R77  
   endurance training and, fasting, R179  
 Glucoprivation, thermogenesis and lipolysis,  $\beta$ -adrenergic blockade effects, R379  
 Glucoreceptors: *see* Receptors  
 Glucose  
   blood  
     exercise and fasting effects, endurance training and, R170  
     food intake effects, R450  
     postinsulin hypophagia, R304  
   endotoxin effects, liver and muscle, R77  
   glucoprivation,  $\beta$ -adrenergic blockade effects, R379  
   glucose, endotoxin effects, diabetes, R77  
   hemorrhage response, awake state, R416  
   plasma somatostatin and (monkey), R289  
   postpyloric regulation, gastric emptying (monkey), R408  
   thyroid treatment and, R170  
 Glycerol  
   plasma, postinsulin hypophagia, R304  
   thyroid treatment and, R170  
 Glycogen  
   endotoxin effects, liver and muscle, R77  
   liver  
     meal effects, R450  
     postinsulin hypophagia, R304  
 Glycogenolysis  
   food intake effects, liver, R450  
   work-jump, glucose-perfused heart, R389  
 Glycolysis  
   anoxia and, brain (turtle, rat), R281  
   work-jump, glucose-perfused heart, R389  
 Gonadal hormones, circannual body weight rhythms and (squirrel), R546  
 Granules, platelet-dense constituents, comparative study, R454  
 Growth, food intake effects, weight gain, R531  
 Growth hormone, release, lack of (monkey), R213  
 Gustatory response, sensitivity to amino acids and bitter substances (frog), R42

## H

- Half-life, compartmental vs. noncompartmental analysis, R1  
 Heart, aortic occlusion, cardiac output following, R152  
 Heart atria, left, increased pressure, renal function and, awake state (monkey), R119  
 Heart rate  
   baroreflex control, nitroprusside-induced hypotension, R18  
   fastigial sympathetic activity and, R25  
   fetal and maternal (sheep), R433  
 Heart ventricles, pacing, raphe sympathetic neurons and, R49  
 Heart ventricles, right, aortic occlusion and, R152  
 Heat  
   evaporation loss,  $\beta$ -endorphin effects, R104  
   loss, estradiol effects, R70

- Hemodynamic responses, reduced venous return, R354  
 Hemorrhage, early responses to, corticosterone effects, awake state, R416  
 Hepatocytes, polyunsaturated fatty acid incorporation, lipids (rainbow trout), R223  
 Histogram, arterial pressure, heart rate and, fetal and maternal (sheep), R433  
 Hormonal changes, endotoxin and, diabetes, R77  
 Hormonal responses, reduced venous return, R354  
 Hormones: *see* specific hormone  
 Hydroxybutyrate, ketone bodies, kinetics of, R7  
 3-Hydroxybutyrate, plasma, postinsulin hypophagia, R304  
 Hyperphagia, hypothalamic knife cuts, obesity and, R445  
 Hypertension  
   essential, cardiac output-blood volume relations, R318  
   fastigial sympathetic activity and, R25  
   spontaneous  
     baroreceptor gain reflexes and, R500  
     sympathetic activity, spinal transection, R506  
 Hypobaria, renal and endocrine function and, R265  
 Hypophagia, postinsulin, blood metabolites and feeding during, R304  
 Hypotension, nitroprusside-induced, baroreflex control of heart rate, R18  
 Hypothalamus  
   knife cuts, obesity and, R445  
   posterior, baroreceptor reflex gain, spontaneous hypertension effects, R500  
   preoptic/anterior area,  $\beta$ -endorphin effects, R104  
   temperature, thermoregulation (pigeon), R363  
   tissue slices, thermosensitive neurons in, synaptic blockade effects, R480  
 Hypothermia, estradiol effects, ovariectomy, R70  
 Hypothyroid, ovariectomy, heat loss, estradiol effects, R70  
 Hypoxemia, plasma catecholamines during, fetal (lamb), R520  
 Hypoxia  
   chemoreceptor effects, diving responses (duck), R537  
   heart muscle response to (muskrat, rabbit, guinea pig), R245  
   renal and endocrine function and, R265  
 Hysteretic response curves, steep, triggering cycle and homeostasis, membranes, R229

## I

- Impedance, arterial hemodynamics, systemic (diamond python), R205  
 Indicator-dilution technique  
   arterial pressure, heart rate and (sheep), R433  
   compartmental analysis, R424  
 Infant, cerebrospinal fluid action, ontogeny of, R400  
 Insulin  
   blood levels, hypothalamic knife effects,

- obesity, R445  
 endotoxin effects, diabetes, R77  
 injections, blood metabolites and feeding, R304  
 plasma somatostatin and (monkey), R289  
 thyroid treatment and, R170  
 treatment, obesity and, R347  
 Intestines, bypass surgery, appetite suppressant activity of plasma, R60  
 Inulin, distribution space, rest and exercise, muscle, R271  
 Ionic activity, multiprobe monitoring, brain, awake state, R462  
 Ischemia  
   brain, awake state, R462  
   heart muscle response (muskrat, rabbit, guinea pig), R245

## K

- Ketone bodies, human, models, R7  
 Kidney  
   function  
     left atrial pressure effects, awake state (monkey), R119  
     hypoxia effects, R265  
 Kidney tubules, calcium transport, sodium and adenosine triphosphate effects (teleost), R34

## L

- Lactate  
   plasma, endotoxin effects, diabetes, R77  
   work-jump, glucose-perfused heart, R389  
 Lechâtelier principle, triggering cycle and homeostasis, membrane, R229  
 Light, constant, circadian control of lordosis behavior, female, R112  
 Lipids  
   metabolism, muscle and adipose tissue, R258  
   polyunsaturated fatty acid incorporation into, hepatocytes (rainbow trout), R223  
 Lipolysis  
    $\beta$ -adrenergic blockade effects, glucoprivation, R379  
   hypothalamic knife cuts and, obesity, R445  
 Lipoprotein lipase, metabolism, muscle and adipose tissue, R258  
 Liver, glycogen content, meal effects, R450  
 Lordosis behavior, circadian control of, female, R112  
 Lung  
   anatomy (snake), R251  
   gas exchange, excretion-retention diagram, R329

## M

- Magnesium ions, plasma dense granule constituents, species differences, R454  
 Meals: *see* Feeding  
 Melatonin, sleep timing, sex differences, R193  
 Membrane: *see also* specific subject and site  
   fetal, decidua prolactin transport, R552  
   fluidity, modeling methodology forum, R475  
 Membrane vesicles, plasma, calcium transport, peritubular (teleost), R34

- Metabolic changes, endotoxin and, diabetes, R77
- Metabolic monitoring, multiprobe monitoring, brain, awake state, R462
- Metabolic rate  
 $\beta$ -endorphin effects, R104  
 sympathetic and thyroid influences, fasting and refeeding, R339
- Metabolites, blood, feeding and, postinsulin hypophagia, R304
- $\alpha$ -Methyl-*p*-tyrosine, circadian temperature rhythms and, R218
- Microcirculation, rectal gland (dogfish), R289
- Microrespirometry, coulometric, oxygen consumption measurement, R185
- Microspheres, radiolabeled, hyperdynamic severe sepsis and (monkey), R131
- Models  
 compartmental vs. noncompartmental analysis, R1  
 computer simulation, work-jump, glucose-perfused heart, R389  
 excretion-retention diagram, vertebrate respiratory system, R329  
 Guyton-Coleman circulatory, essential hypertension, R318  
 ketone bodies, human, R7  
 mathematical, sleep timing, sex differences, R193  
 reaction time enhancement, reduction in dimensionality, R475
- Morphometrics, pulmonary (snake), R251
- Muscimol, stress-induced eating and, R159
- Muscle, lipoprotein lipase and lipid metabolism, R258
- Muscle, heart, hypoxia (muskrat, rabbit, guinea pig), R245
- Muscle, skeletal, intracellular water spaces, rest and exercise, R271
- Muscle, smooth, tracheal, reflex relaxation, thin-fiber muscle afferents, R383
- Muscle afferents, thin-fiber, tracheal smooth muscle reflex relaxation, R383
- Muscle fibers, composition, rest and exercise, R271

## N

- Naloxone, temperature regulation and, R104
- Neural control, vasomotion, desynchronized sleep, ear, R142
- Neurons  
 catecholamine, alloxan injection effects, brain, R312  
 thermosensitive, synaptic blockade effects, hypothalamic tissue slices, R480
- Nitroprusside, hypotension, baroreflex control of heart rate and, R18
- Norepinephrine  
 angiotensin II effects, species differences, R65  
 hypoxemia and, fetal (lamb), R520  
 plasma, thyroid treatment, R170  
 turnover, circadian temperature rhythms and, R218
- Nucleotides, plasma dense granule constituents, species differences, R454
- Nutrients, dietary, concentration, weight gain and, R531
- Nutrition: *see* Feeding

## O

- Obesity  
 appetite suppressant activity, intestinal bypass and, R60  
 hypothalamic knife cuts and, lipolysis and blood insulin levels, R445  
 sucrose, ovariectomy, and sucrose effects, R347  
 sympathetic activity, thyroid treatment and, R170
- Ontogeny, cerebrospinal fluid sink action, urea, R400
- Osmoregulation  
 blood flow, rectal gland (dogfish), R289  
 calcium transport, peritubular (teleost), R34
- Ovarian cycle, heat loss, estradiol effects, R70
- Ovariectomy  
 hypothyroid, heat loss, estradiol effects, R70  
 obesity and, R347
- Oxidation, lipid metabolism, and, muscle and adipose tissue, R258
- $\beta$ -Oxidation, thyroid treatment and, R170
- Oxygen consumption  
 $\beta$ -adrenergic blockade effects, glucoprivation, R379  
 coulometric microrespirometry, R185  
 heat loss and, estradiol effects, R70  
 hyperdynamic severe intravascular sepsis and (monkey), R131  
 tension, brain (turtle, rat), R281

## P

- Papillary muscle: *see* Muscle, heart
- Peptides, stress-induced eating and, R159
- Perfusion, cross, diving responses, chemoreceptor effects (duck), R537
- pH  
 aldosterone effects, potassium distribution, R526  
 brain, awake state, R462
- Phase shift,  $\alpha$ -methyl-*p*-tyrosine effects, R218
- Phentolamine, angiotensin II effects, species differences, R65
- Phosphofructokinase, work-jump, glucose-perfused heart, R389
- Plasma  
 appetite suppressant activity of, intestinal bypass surgery, R60  
 clearance: *see* Clearance  
 constituents: *see* specific constituent
- Potassium  
 distribution, aldosterone effects, R526  
 extracellular, awake state, brain, R462
- Potassium ions, homeostasis, anoxia and, brain (turtle, rat), R281
- Pregnancy: *see also* Fetus  
 arterial pressure, heart rate and, fetal and maternal (sheep), R433
- Pressure: *see also* Blood pressure  
 arterial, fetal and maternal (sheep), R433  
 left atrial, renal function and, awake state (monkey), R119  
 mean systemic, aortic occlusion and, R152
- Prolactin, decidual, transport, fetal membrane, R552
- Propranolol  
 baroreflex control of heart rate,

- nitroprusside-induced hypotension, R18
- thermogenesis and lipolysis,  $\beta$ -adrenergic blockade effects, R379
- Propylthiouracil, estradiol effects, heat loss, ovariectomy, R70
- Protein, dietary, plasma and diet amino acid relations, R99
- R
- Raphe neurons, sympathetic, classification with cardiac-related activity, R49
- Reaction rate theory, modeling methodology forum, R475
- $\alpha$ -Receptor blockade: *see* Blockade
- Receptors  
 baroreceptors, fastigial sympathetic activity, R25  
 chemoreceptors, diving responses and (duck), R537  
 glucoreceptors, alloxan injection effects, fourth ventricle, R312  
 gustatory, sensitivity (frog), R42  
 Rectal gland, blood flow (dogfish), R289
- Refeeding: *see* Feeding
- Reflexes  
 baroreflex, heart rate, nitroprusside-induced hypotension and, R18  
 baroreceptor, raphe sympathetic neurons, R49  
 baroreceptor gain, spontaneous hypertension effects, R500  
 Henry-Gauer, left atrial pressure effects on renal function, awake state, R119  
 relaxation, thin-fiber muscle afferents, tracheal smooth muscle, R383  
 somatovisceral, thin-fiber muscle afferents and, R383  
 vagocardiac, preganglionic neurons, R92
- Renal nerves, spontaneous hypertension, spinal transection, R506
- Renin-angiotensin system  
 central nervous system and, awake state, R82  
 drinking, caval ligation-induced, R558
- Reproduction, circannual body weight rhythms, gonadal hormone effects (squirrel), R546
- Resistance  
 cardiac output-blood volume relations, hypertension, R318  
 peripheral, diving responses, chemoreceptor effects (duck), R537
- Respiration  
 comparative physiology, vertebrate, R329  
 variations in rate and depth, sleeping infant, R164
- Respiratory duration, breath-to-breath relations, sleeping infant, R164
- Respiratory system, vertebrate, gas exchange, R329
- Rhythms  
 arterial pressure and heart rate, fetal and maternal (sheep), R433
- circadian  
 coulometric microrespirometry and, R185  
 glucocorticosteroids and, R373  
 lordosis behavior and, female, R112  
 sleep timing, sex differences, R193  
 temperature,  $\alpha$ -methyl-*p*-tyrosine effects, R218



circannual body weight, gonadal hormone effects (squirrel), R546

# S

Satiety: *see* Feeding

Sepsis, hyperdynamic severe, fluid administration and (monkey), R131

Serotonin, plasma dense granule constituent, comparative study of, species differences, R454

Sex differences

circadian timing, sleepiness, R193  
circannual body weight rhythms, gonadal hormone effects (squirrel), R546

Shock, fluid administration and, hyperdynamic severe sepsis and (monkey), R131

Sleep

circadian timing, sex differences, R193  
desynchronized, neural control of vasomotion, ear, R142  
growth hormone release (monkey), R213  
rapid eye movement, ventilatory measurements, infant, R164  
ventilation, breath-to-breath variations in, infant, R164

Sodium

aldosterone effects, potassium distribution, R526  
balance, vasopressin effects, awake state, R512

Sodium ions, calcium transport and, peritubular (teleost), R34

Somatostatin, plasma, basal level and nutrition effects (monkey), R289

Species differences

hypoxia, heart muscle response (muskrat, rabbit, guinea pig), R245  
plasma dense granule constituents, R454  
potassium homeostasis, anoxia, brain (turtle, rat), R281

Spinal cord

sympathetic activity, fastigial nucleus stimulation and, R25  
temperature, thermoregulation (pigeon), R363  
transection, sympathetic activity in spontaneous hypertension, R506

Starvation: *see* Fasting

Stomach

emptying  
postinsulin hypophagia, R304  
postpyloric regulation of (monkey), R408

Streptozotocin, glycoprivic feeding, alloxan effects, R312

Stress

lipolysis and blood insulin levels, hypothalamic knife cuts and, R445  
restraint, thyroid treatment and, R170  
Stress hormone, endurance training effects, fasting, R179

Sucrose, obesity and, R347

Suprachiasmatic nucleus, sleep timing, sex

differences, R193  
Sympathectomy, neural control of vasomotion, desynchronized sleep, ear, R142

Sympathetic activity

spinal, fastigial nucleus stimulation and, R25

spontaneous hypertension  
baroreceptor reflex gain and, R500  
spinal transection, R506  
thyroid treatment and, R170

Sympathetic nerves, discharge, cardiac-related activity and, R49

Sympathetic nervous system, influences, metabolic rate, fasting and refeeding, R339

Sympathetic neurons, raphe, classification with cardiac-related activity, R49

Sympathoadrenal response, alloxan, fourth ventricle, R312

# T

Temperature

acclimation, hepatocytes (rainbow trout), R223  
circadian rhythms,  $\alpha$ -methyl-*p*-tyrosine effects, R218  
regulation

$\beta$ -endorphin effects, R104  
synaptic blockade effects, hypothalamus, R480

Temperature, body

cryogen effects, urine, R241  
hypothalamic, thermoregulation (pigeon), R363

rectal, estradiol effects, ovariectomy, R70

Testosterone, circannual body weight

rhythms and (squirrel), R546  
Thermal maxima, correction of equation, R563

Thermogenesis,  $\beta$ -adrenergic blockade effects, glucoprivation, R379

Thermoregulation

autonomic, desynchronized sleep, ear, R142

central nervous system temperature, negative and positive feedback (pigeon), R363

glucocorticosteroids and, circadian zeitgeber, R373

Thirst: *see* Drinking

Thoracic aorta: *see* Aorta

Thyroid

influences, metabolic rate, fasting and refeeding, R339

treatment, sympathetic activity in, R170

Thyroidectomy, calcium homeostatic system and, awake state (pig), R125

Thyroid hormone, sympathetic activity and, R170

Thyroxine, heat loss, estradiol effects, ovariectomy, R70

Tidal volume: *see* Volume

Trachea, smooth muscle, reflex relaxation,

thin-fiber muscle afferents, R383  
Treadmill running: *see* Exercise  
Triggering cycle, homeostasis and, biological fluid membrane, R229

# U

Urea,  $^{14}$ C-labeled, ontogeny of cerebrospinal fluid sink action, R400

Urinary bladder, *p*-aminohippuric acid secretion (crab), R147

Urine

concentrating mechanism, antidiuretic therapy, diabetes insipidus, R491  
endogenous cryogen, R241  
flow, hypoxia effects, R265

# V

Vagus nerve, cardiac preganglionic, location, R92

Vasomotion, neural control of, desynchronized sleep, ear, R142

Vasopressin

angiotensin II effects, awake state, R82  
antidiuretic therapy, diabetes insipidus, R491  
sodium and water balance, awake state, R512

Venous return

aortic occlusion and, R152  
hemodynamic, hormonal and drinking responses to, R354

Ventilation, breath-to-breath variations, sleeping infant, R164

Ventricles: *see* Brain ventricles; Heart ventricles

Vertebral artery, angiotensin II effects, awake state, R82

Volume

distribution, compartmental analysis, R1  
tidal, breath-to-breath relations, sleeping infant, R164

Volume control

left atrial pressure effects, awake state, R119  
oral antidiuretic therapy, diabetes insipidus, R491

# W

Water, balance, vasopressin effects, awake state, R512

Water spaces, exercise, skeletal muscle, R271

Weanling, plasma and diet amino acid relations, R99

Weight

body  
circannual rhythms, gonadal hormone effects (squirrel), R546  
gain, food intake effects, R531  
postinsulin hypophagia, R304  
Work-jump, computer simulated, glucose-perfused heart, R389



# Author Index to Volume 12

Achs, M. J., R389  
 Alberti, K. G. M. M., R7  
 Anderson, G. H., R99  
 Anderson, R. J., R512  
 Arbogast, R., R185  
 Atkinson, R. L., R60  
 Avogaro, A., R7  
 Avolio, A. P., R205  
 Azain, M., R258

Bagby, G. J., R77  
 Barton, R. N., R416  
 Beattie, M. A., R179  
 Beeuwkes, R., III, R491  
 Boshes, M., R546  
 Boulant, J. A., R480  
 Brace, R. A., R433  
 Bray, G. A., R347, R445  
 Brent, E. L., R60  
 Brooks, V. L., R82  
 Bulliman, B. T., R205  
 Bunner, D. L., R213  
 Burkhardt, S. S., R531  
 Burns, B., R152

Cahill, A. L., R218  
 Calдини, P., R152  
 Calvano, S. E., R70  
 Campbell, R. G., R379  
 Carlisle, H. J., R70  
 Carroll, G. C., R131  
 Carroll, R. G., R65  
 Chau, N. P., R318  
 Chen, R. Y. Z., R18  
 Chien, S., R18  
 Chornoboy, E. S., R506  
 Cianci, T., R142  
 Cobelli, C., R7  
 Cohen, W. R., R520  
 Cole, D. R., R563  
 Cole, T. B., R531  
 Coleman, T. G., R318  
 Cornish, K. G., R119  
 Cox, P. S., R241

DeLisi, C., R475  
 Dewey, H. G., R563  
 Dickman, K. G., R34  
 Dinterman, R. E., R213  
 DiStefano, J. J., III, R1  
 Dormer, K. J., R25

Ehret, C. F., R218, R373  
 Elfont, R. M., R558  
 Epstein, M. A. F., R164  
 Epstein, R. A., R164

Fan, F.-C., R18  
 Farber, M. O., R265  
 Fineberg, N., R265

Fitzsimons, J. T., R558  
 Fong, B. C., R77  
 Foreman, R. D., R25  
 Franzini, C., R142  
 Friedli, C. M., R462

Gabbott, G. R. J., R537  
 Garfinkel, D., R389  
 Geary, N., R304, R450  
 Gebber, G. L., R49  
 Gilmore, J. P., R119  
 Gordon, C. J., R104  
 Grace, M., R159  
 Gross, P. A., R512  
 Grötschel, H., R304  
 Guidalotti, P. L., R142

Haddad, G. G., R164  
 Hansen, B. C., R289  
 Hazel, J. R., R223  
 Heath, J. E., R104  
 Heusner, A. A., R185  
 Heyes, M. P., R265  
 Holliday, C. W., R147  
 Holman, R. T., R179  
 Holmsen, H., R454  
 Horseman, N. D., R373  
 Hurley, J. P., R185

Jackson, B. T., R520  
 Jackson, T. E., R526  
 János, G. G., R125  
 Jen, K.-L. C., R289  
 Johanson, C. E., R400  
 Johnson, D. J., R99  
 Jones, D. R., R537

Kasser, T. R., R258  
 Kaufman, M. P., R383  
 Keil, L. C., R82, R354  
 Kelleher, D. L., R77  
 Kelso, S. R., R480  
 Kent, B., R296  
 Kinter, L. B., R491  
 Kluger, M. J., R241  
 Kneip, J., R159  
 Kobatake, Y., R42  
 Kurihara, K., R42

Ladenheim, E. E., R312  
 Lai, T. L., R164  
 LaManna, J. C., R281  
 Landon, R., R245  
 Langhans, W., R450  
 Laudenslager, M. L., R70  
 Lawler, F. H., R433  
 Leistner, H. L., R164  
 Lenzi, P., R142  
 Levin, B. E., R170  
 Levine, A. S., R159

London, G. M., R318  
 Longhurst, J. C., R383  
 Luijendijk, S. C. M., R329  
 Lutz, P. L., R281

Maier, H., R125  
 Manfredi, F., R265  
 Mang, K., R205  
 Martin, R. J., R258  
 Mayevsky, A., R462  
 McCoshen, J. A., R552  
 McCulloch, A., R7  
 McHugh, P. R., R408  
 McKean, T., R245  
 McNamara, J. P., R258  
 McNamee, G. A., Jr., R213  
 Mellins, R. B., R164  
 Mercer, L. P., R531  
 Meyers, K. M., R454  
 Miller, D. S., R34, R147  
 Milsom, W. K., R537  
 Mitchell, J. H., R383  
 Moran, T. H., R408  
 Morley, J. E., R159  
 Morrison, S. F., R500, R49  
 Murnane, J. M., R312  
 Murray, S. S., R159

Nosadini, R., R7  
 Nosaka, S., R92  
 Novin, D., R445

Ohata, C. A., R25  
 Olson, K. R., R296  
 Opdyke, D. F., R65  
 Opie, L. H., R389  
 Ordway, G. A., R383  
 O'Rourke, M. F., R205

Parandoosh, Z., R400  
 Passingham, B. J., R416  
 Permutt, S., R152  
 Piasecki, G. J., R520  
 Podzuweit, T., R125

Ramsay, D. J., R354  
 Reid, I. A., R82  
 Renfro, J. L., R34  
 Rezvani, A. H., R104  
 Ritter, S., R312  
 Robertshaw, D., R265  
 Robertson, G., R265  
 Rosenthal, M., R281  
 Rothenburg, B. A., R241  
 Rothwell, N. J., R339  
 Rudolph, C. D., R82

Safar, M. E., R318  
 Saltin, B., R271

Saville, M. E., R339  
 Scharrer, E., R304, R450  
 Schemmel, R. A., R347  
 Schielke, G. P., R289  
 Schiffmann, Y., R229  
 Schindler, J. G., R125  
 Schmidt, I., R363  
 Schramm, L. P., R506  
 Schuessler, G. B., R18  
 Schweisthal, M. R., R531  
 Sciafani, A., R445  
 Sclarsky, D. S., R462  
 Seachord, C. L., R454  
 Sellner, P. A., R223  
 Shanoff, M., R152  
 Sherif, M. H., R424  
 Sick, T. J., R281  
 Simon, E., R363  
 Sjøgaard, G., R271  
 Snyder, J. V., R131  
 Spitzer, J. J., R77  
 Stene, J. K., R152  
 Stinner, J. N., R251  
 Stock, M. J., R339  
 Sullivan, A. C., R170  
 Swann, J., R112

Tagger, O. Y., R552  
 Tamai, S., R92  
 Teague, R. J., R347  
 Thompson, D. A., R379  
 Thrasher, T. N., R354  
 Tiengo, A., R7  
 Toffolo, G., R7  
 Triscari, J., R170  
 Turek, F. W., R112  
 Tyson, J. E., R552

Vinik, A., R289  
 Von Gülich, M., R125

Wannemacher, R. W., Jr., R213  
 Webster, M. E., R205  
 Weinberger, M., R265  
 Welle, S. L., R379  
 Whitehorn, D., R500  
 Wiegel, F. W., R475  
 Winder, W. W., R179  
 Winfree, A. T., R193  
 Wirth, J. B., R408  
 Wodzicki, A., R552

Yasunaga, K., R92  
 Yates, F. E., R471  
 Yoshii, C., R42  
 Yoshii, K., R42  
 Young, D. B., R526  
 Yu, K. F., R164

Zucker, I., R546  
 Zwart, A., R329